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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,704	11/30/2001	Harm Sluiman	CA920010006US1	6671
55436 7	590 06/19/2006		EXAMINER	
ROGITZ & ASSOCIATES			CHOULES, JACK M	
750 B STREET SUITE 3120	L		ART UNIT	PAPER NUMBER
SAN DIEGO, CA 92019		2167		

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary The MAILING DATE of this communication appreciate for Reply	Y IS SET TO EXPIRE <u>3</u> MONTH	SLUIMAN, HARM Art Unit 2167 correspondence address
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A SHORTENED STATUTORY PERIOD FOR REPL WHICHEVER IS LONGER, FROM THE MAILING D - Extensions of time may be available under the provisions of 37 CFR 1.1 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period - Failure to reply within the set or extended period for reply will, by statute Any reply received by the Office later than three months after the mailine earned patent term adjustment. See 37 CFR 1.704(b).	(36(a). In no event, however, may a reply be time. will apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE.	N. mely filed the mailing date of this communication. ED (35 U.S.C. § 133).
Status		
Responsive to communication(s) filed on <u>3 Mar</u> This action is FINAL . 2b) ☐ This Since this application is in condition for alloware closed in accordance with the practice under the practice under the practice.	s action is non-final. nce except for formal matters, pro	
Disposition of Claims		
4) ⊠ Claim(s) 1-5,7-12 and 16-19 is/are pending in 4a) Of the above claim(s) 16-18 is/are withdray 5) □ Claim(s) is/are allowed. 6) ⊠ Claim(s) 1-5,7-12 and 16-19 is/are rejected. 7) □ Claim(s) is/are objected to. 8) □ Claim(s) are subject to restriction and/or	wn from consideration.	
Application Papers		
9) The specification is objected to by the Examine 10) The drawing(s) filed on is/are: a) acc Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the E	epted or b) objected to by the drawing(s) be held in abeyance. Se tion is required if the drawing(s) is ob	ee 37 CFR 1.85(a). Djected to. See 37 CFR 1.121(d).
Priority under 35 U.S.C. § 119		
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority documen 2. Certified copies of the priority documen 3. Copies of the certified copies of the priority application from the International Burea * See the attached detailed Office action for a list	ts have been received. ts have been received in Applicat ority documents have been receiv u (PCT Rule 17.2(a)).	tion No ved in this National Stage
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08 Paper No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail D 5) Notice of Informal 6) Other:	

DETAILED ACTION

This action is responsive Amendment filed 03 March 2005. Claims 1-5 7-12 and 16-20 are pending in this Office Action. Claims 16-19 having been withdrawn from consideration and claims 6, 13-15, 21, and 22 having been canceled by applicant.

Response to Arguments

Applicant's arguments filed 3 March 2006 have been fully considered but they are not persuasive.

The applicant argues as directed to the rejection under 35 USC § 112 of Claims 1-5, 7-9, 11, 12, and 20 for providing for the use of since the claim does not set forth any steps involved in the method/process. The applicant argues that these claims require either a computer or a computer medium with accompanying functions overcoming the rejection.

The applicants amendments and his arguments against the examiners statement that term method in the body does not mean the portion or the claim is a process claim rather than clarify the scope of the claims under 112 further confuse the determination of whether a machine and/or a method and/or a product are being claimed, see **IPXL Holdings, LLC v. Amazon.com** 77 USPQ2d 1140 (CA FC 2005) at 1145.

The applicant argues that the rejection under 101 of claims 1-5, 7-12 and 20 is invalid as the "claims recite a computer or a computer medium overcoming the rejections as best understood by the applicant." The examiner respectfully disagrees, in the case of claim 1 the body of the claim recites, "at least one abstract class for

defining at least one data type of the least one member, said abstract class including;" an abstract class both by definition and by a reference to the specification is a data structure. The reaming element elements included in claim 1 are all elements of the data structure. The claim does not positively recite any computer-readable storage medium. The abstract data class or Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer (see the Interim Guidelines for Examination of Patent Application For Patent Subject Matter Eligibility," annex IV, for OG notices 22 November 2005 appropriate sections but quoted below for applicant's convenience). There is a recitation in the preamble of "a schema" for storing meta data" clearly a schema is not a computer-readable storage medium. A schema is a definition or tool which may assist in storage but not a tangible computer readable storage. Further State Street clearly shows that in the method or apparatus invention, stating that the invention is implemented on a computer is not sufficient to make an apparatus or a method statutory as in such cases further analysis was needed to determine if the claim provided a useful, concrete and tangible result (the claim that was considered in State Street was a computer implemented machine but still needed the analysis of the result to determine if it was a useful, concrete and tangible result. State Street 149 F.3d at 1373-74, 47 USPQ2d at 1601-02 See also AT&T, 172 F.3d at 1359, 50 USPQ2d at 1452 and Benson, 409 U.S. 63, 175 USPQ 673 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility [hereinafter also referred to as 101 guidelines], Annex III d).

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The examiner is also to look to the remaining elements of the claim to find any statutory subject matter, however, in this case there are no remaining elements. Further claims 2-5 add properties that are to be further elements of the data structure and thus do not resolve the 101 rejection. Claim 7, 11, and 12, contain the description of a data structure made up of data elements in the body just as claim 1, and thus are similarly nonstatutory. Claims 8-10 and 20 attempt to correct the problem by a citing a computer medium however the current 101 guidelines as cited below specifically state a computer readable medium is needed to give the data structure a tangible embodiment that is functionally related to the computer. Thus a computer medium does not overcome the rejection as it could include a medium not readable by a computer which would not impart any functionality to a computer as required for data in the claims to be considered a statutory data structure that is able to provide a useful, concrete, and tangible result as required by State Street 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Clearly even if the claim is considered to be a machine (see discussion directed to 112 2nd paragraph above) it is not a statutory machine as alleged by applicant.

Interim Guidelines for Examination of Patent Application For Patent Subject Matter Eligibility," [also herein referred to as 101 guidelines] annex IV, for <u>OG notices 22</u>

November 2005:

Computer-Related Nonstatutory Subject Matter

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship

among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory and should be rejected under 35 U.S.C. § 101. In addition, the examiner should inquire whether there should be a rejection under 35 U.S.C. § 102 or 103. The examiner should determine whether the claimed nonfunctional descriptive material be given patentable weight. The USPTO must consider all claim limitations when determining patentability of an invention over the prior art. In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 403-04 (Fed. Cir. 1983). The USPTO may not disregard claim limitations comprised of printed matter. See Gulack, 703 F.2d at 1384, 217 USPQ at 403; see also Diehr, 450 U.S. at 191, 209 USPQ at 10. However, the examiner need not give patentable weight to printed matter absent a new and unobvious functional relationship between the printed matter and the substrate. See In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994); In re Ngai, 367 F.3d 1336, 70 USPQ2d 1862 (Fed. Cir. 2004).

(a) Functional Descriptive Material: "Data Structures" Representing Descriptive Material Per Se or Computer Programs Representing Computer Listings Per Se

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at

1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions. Computer programs are often recited as part of a claim. USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim. The same result occurs when a computer program is used in a computerized process where the computer executes the instructions set forth in the computer program. Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material per se and hence nonstatutory. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and **USPTO personnel** should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material. When a computer program is claimed in a process where the computer is executing the computer program's instructions, USPTO personnel should treat the claim as a process claim. See paragraph IV.B.2(b), below. When a computer program is recited in conjunction with a physical structure, such as a computer memory, USPTO personnel should treat the claim as a product claim. See paragraph IV.B.2(a), below.

(b) Nonfunctional Descriptive Material

Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture or composition of matter and should be rejected under 35 U.S.C. § 101. Certain types of descriptive material, such as music, literature, art, photographs and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. § 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping of musical notes read from memory and upon recognizing that particular sequence, causes another defined series of notes to be played, defines a functional interrelationship among that data and the computing processes performed when utilizing that data, and as such is statutory because it implements a statutory process.

As to the rejections under 35 U.S.C. 102 and 103 over Bergamaschi the applicant argued as follows: "nothing is taught in pages 44-46 of the reference that is directed to anything which is database-specific."

The examiner respectfully disagrees because the system of Bergamaschi is directed to an Object Wrapper for a single database (see the abstract on page 41).

Therefore any database type treated in the system of Bergamaschi is database specific.

the type is specific to the one database that exists in the wrapper of the system of Bergamaschi. And the claim which states that a property indicates "at least one database-specific data type name" does not set forth how that database-specific type name is constructed, the examiner contends that if the type name is used in only one database is database specific. Any type name would be a database-specific data type name as it is specific to the one database of Bergameschi. The system of Bergamaschi is also global across the wrapper. The examiner finds no limitations that must be in the current set of claims that requires more than one database in the system of the claims thus this interpretation is consistent with a broad reading the claim language. The examiner is instructed to give the claims their broadest reasonable interpretation. Further as the limitations argued are directed to descriptive material per se and the examiner is not required to give them patentable weight. Even if the claim covers a machine these limitations are to data that is not embodied on a computer readable medium. Descriptive material per se is by definition nonfunctional as it is not contained on a computer readable media and non-functional descriptive material need not be given any weight (see "Interim Guidelines for Examination of Patent Application" for Patent Subject Matter Eligibility," annex IV, OG Notices 22 November 2005).

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory and should be rejected under 35 U.S.C. Sec. 101. In addition, the examiner should inquire whether there should be a rejection under 35 U.S.C. Sec. 102 or 103. The examiner should determine whether the claimed nonfunctional descriptive material be given patentable weight. The USPTO must consider all claim limitations when determining patentability of an invention over the prior art. In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 403-04 (Fed. Cir. 1983). The USPTO may not disregard claim limitations comprised of printed matter. See Gulack, 703 F.2d at 1384, 217 USPQ at 403; see also Diehr, 450 U.S. at 191, 209 USPQ at 10. However, the examiner need not give patentable weight to printed matter absent a new and unobvious functional relationship between

the printed matter and the substrate. See In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994); In re Ngai, 367 F.3d 1336, 70 USPQ2d 1862 (Fed. Cir. 2004). AND

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Italics added for emphasis.

Descriptive material per se is not limited to copyrightable material. Copyrightable material is one example of descriptive material per se as the 101 but the test is whether the data or information is functional. The 101 guidelines clearly state, "Data structures not claimed as embodied in computer-readable media are descriptive material per se"

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 7-12, and 20 provide for the use of "the object," "a schema," "a database catalog," "the description," or "the language", but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

The current claim language further confuses the determination of whether a machine and/or a method and/or a product are being claimed; see IPXL Holdings, LLC v. Amazon.com 77 USPQ2d 1140 (CA FC 2005) at 1145.

Particularly as to claim 1 the preamble now appears to be directed to a machine (A computer) and function (implementing a schema) however the body contains elements directed to data per se except for the last element, which is a process or processes (at least one method) preformed by the machine (used by the computer). Similar structure directed to a machine and a method preformed by the machine was found to be of undeterminable scope in IPXL Holdings, LLC v. Amazon.com. Claims 2-5 are dependent on 1 thus incorperating the same structure. Claim 7 and 11-12 have a similar structure of machine combined with process as claim 1. Claims 8-10 also depend on claim 1, however, they currently confuse the issue further by attemting to including a product in the mix (A computer [readable?] medium). Claim 20 is a product (A computer [readable?] medium) combined with a process (a method) and the scope is thought to be undeterminable for similar reasons.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-5, 7-12, and 20 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process

claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd. App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claims 1-5, 7-12 and 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The invention as claimed in claims 1-5, 7-12 and 20 and interpreted in light of the specification, is directed to a machine or method or manufacture related to implementing a schema or other data structure, a manufacture comprising data or a data structure on a computer medium. The apparatus and method for storing data (without positively reciting a storage) are subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a "useful, concrete and tangible result." The Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that the process claim must set forth a practical application of that § 101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application.").

Claims 1-5, 7-12 and 20 have the result of storing identified dependencies, however the claims do not specify that the result is displayed to a user or otherwise produce the real world results further the claims all lack the elements necessary to provide useful, concrete, and tangible results in particular the claims recite descriptive

material per. se. without a tangible embodiment on computer **readable** medium to be able to function to provide any result on a computer. The court in State Street noted that the claimed invention in Alappat constituted a practical application of an abstract idea because it produced a useful, concrete and tangible result the display of a smoothed heart beat to a system user. The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101. AT&T, 172 F.3d at 1358, 50 USPQ2d at 1451 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex II). The Federal Circuit further ruled that it is of little relevance whether the claim includes a computer or is implemented on a computer. AT&T, 172 F.3d at 1359, 50 USPQ2d at 1452 and Benson, 409 U.S. 63, 175 USPQ 673 (see the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, Annex III d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7-12 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergamaschi et al. [hereinafter Bergamaschi] "Object Wrapper: an object-oriented interface for relational databases."

As per claim 1, Bergamaschi discloses a schema for storing meta data that describes at least one relational database comprising; at least one abstract class for defining at least one data type of at least one member, said abstract class including (Bergamaschi, page 44-46, "ApplicationData" class, "select" class): at least one property for indicating at least one generic Structured Query Language data type for said member (Bergamaschi, page 44-46); at least one property for indicating at least one database-specific data type name for said member (Bergamaschi, page 44-46); and at least one method for constructing at least one object instantiated from at least one class derived from said abstract class (Bergamaschi, page 44-46, "createObject" function).

As per claim 2, Bergamaschi further teaches wherein said abstract class is a first abstract class, further comprising a second abstract class for describing a user defined data type, said second abstract class derived from said first abstract class, said second abstract class including: at least one property for indicating whether an object of at least one class derived from said second abstract class is instantiable; and at least one property for indicating whether said class derived from said second abstract class is final (Bergamaschi, page 44-46).

As per claim 3, Bergamaschi further teaches wherein said abstract class further comprises at least one property for indicating at least one default value for said type of said member (Bergamaschi, page 44-46, default construction).

As per claim 4, Bergamaschi teaches all the claimed subject matters as discussed in claim 1, and further teaches at least one property for indicating at least one

mapping of said database- specific data type name to at least one Java Database Connectivity data type (Bergamaschi, page 41-43).

As per claim 5, Bergamaschi further teaches said schema is described using the Unified Modeling Language. (Bergamaschi, page 44, Figure 2 & 3).

Claims 7-12 and 20 are rejected on grounds corresponding to the grounds given above for claims I -4.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack M. Choules whose telephone number is (571) 272-4109. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jack M Choules
Primary Examiner
Art Unit 2167